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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,611	04/15/2002	Michael Cole	602-1558	8335

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EXAMINER

NAGPAUL, JYOTI

ART UNIT PAPER NUMBER

1743

DATE MAILED: 08/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/030,611

Applicant(s)

COLE, MICHAEL

Examiner

Jyoti Nagpaul

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-13 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/7/2002.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. With respect to claim 11, the structure of the centrifugal evaporator is not recited. There is no structural relationship recited between the centrifugal evaporator and the sample holder, and the claim is not clear.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6 and 10 are rejected under 35 U.S.C. 102 as being anticipated by Kimura.

Kimura teaches sample holders (56, 58, and 60) are formed from a material having high thermal conductivity and are adapted to receive containers (62) each containing a sample to be evaporated. The containers are mounted in the holder, so that neither the latter sample containers nor their contents can receive radiant heat directly from the heat source, but only from the holder. (Refer to Figure 8, Col. 6, Lines

21-30) With respect to the reception of heat recited in claim 1 and shown in applicant's figure 5, the heat is directed to the underside of the main aluminum block, the heat is being transferred through the intermediate block (40). Kimura teaches a similar sample holder where the heat is directed to the underside of the main aluminum block (56, 58, and 62). The heat is supplied to the sample holders in turn heating the samples. The sample holder shields the samples from direct heat energy. Heat is transferred through a highly thermal conductive material such as aluminum to indirectly heat the samples. Kimura also teaches three sample holders that may be held at constant temperature. The temperatures of the aluminum blocks may be held at the same temperature. (Col. 5, Lines 21-24) Temperature control may be made through a holder. (Col. 14, Line 24) With respect to claim 4, as the structure of the sample holder of Kimura is identical to that claimed by applicant, it would be inherent that such a cross-section is selected so that, in use, no appreciable temperature gradients exist during evaporation. With respect to claims 9 and 10, the heating means is not claimed, only the sample holder. Thus limitations to the heating means are attributed no patentable weight in the claims.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 6 and 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura.

Refer above for Kimura teachings.

With respect to **Claim 6**, Kimura discloses the sample rack 32 is swingably mounted to the sample carrier 14 via trunnions 36. (Col. 4, Lines 19-22) However, Kimura discloses an aperture feature not a recess feature. It would have been obvious to one of the ordinary skill in the art to modify the apertures of Kimura to provide recesses in order to provide a more secure holder for the sample container.

Kimura fails to disclose the sample containers are held at a fixed angle to the vertical between 35° and 65°.

Kimura also fails to disclose the recesses, as recited in claim 6, and that the sample containers are mounted in one or more intermediate holders which in turn are mounted in recesses in the sample holder.

It would have been obvious to one of the ordinary skill in this art at the time of invention by applicant to modify the system of Kimura such that the sample containers

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are held at a fixed angle to the vertical between 35° and 65° in order to form a vortex in the tube which causes the liquid to spread out over a large area in the sample tubes thus causing larger surface area for coupling heat into the liquid from its container and speeding up evaporation.

It would have been obvious to one of the ordinary skill in this art at the time of invention by applicant to modify the system of Kimura such that the sample containers are mounted in one or more intermediate holders which in turn are mounted in recesses in the sample holders in order to ensure snug fit of the intermediate holders.

Claim Rejections - 35 USC § 103

Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guy in view of Kimura.

Guy discloses a centrifugal evaporator. Guy discloses a sample holder 20 with heating means 38. The sample holder consists of number plates 20,21,22 for receiving in an inclined position specimen-carrying test tubes. (Col. 4, Lines 56-62, Fig. 1) Guy fails to disclose a mass of aluminum block of high thermal conductivity forming a sample holder.

Kimura discloses a mass of aluminum block sample holders 56,58,60 to provide for uniform heat transfer among all sample tubes. (Col. 5, Lines 21-24)

It would have been obvious to one of the ordinary skill in this art at the time of invention by applicant to modify the system of Guy such that mounting the samples in good thermal contact with a mass of high thermal conductivity material such as aluminum, forming a sample holder, and supplying energy to heat the sample holder

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and in turn the samples in order to maintain uniform temperature among all of the samples.

Allowable Subject Matter

Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art fails to teach or fairly suggest a spacing member between adjoining holders (stacked) in good thermal contact, so that the temperature of one holder will tend to be the same as the temperature of the other.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jyoti Nagpaul whose telephone number is 571-272-1273. The examiner can normally be reached on Monday thru Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JN


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